



**EPA Region III and MDE  
Municipal Separate Storm Sewer  
System (MS4) Training**

**Maryland Phase II MS4 Forum**

**November 18–19, 2015  
Laurel, Maryland**



# Session 1b

## EPA's MS4 Initiative and Oversight





# Presentation Topics

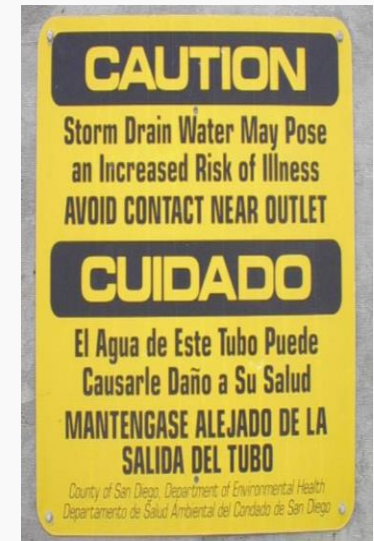
- EPA MS4 Initiative
- General Oversight and Compliance Guidelines
- MS4 Inspection Overview, Goals, and Benefits
- Resources
- Questions & Discussion

A dream  
becomes a goal  
when action is  
taken toward  
achieving it...



# Why are MS4s an EPA initiative?

- Stormwater runoff poses a significant threat to public health and the environment, and remains a leading cause of water quality impairment.
- Stormwater pollutants can:
  - Cause beach closures and swimming illnesses through bacterial contamination
  - Increase the costs of treating drinking water supplies
  - Impact fisheries and shellfish harvesting through excess:
    - ✦ Sedimentation (smothering fish eggs),
    - ✦ Nutrients (reducing available dissolved oxygen)
    - ✦ Metals (preventing a health risk to people who eat the fish)





- Urban stormwater is a leading source of impairment
- Fast-growing water quality concern
- Development increases the amount of impervious cover in the landscape
- Small increase in impervious cover leads to big impacts in receiving waters
- Development upstream can cause downstream impacts in communities
- Local governments face growing wet weather-related costs

An oval-shaped image of a river with a brownish, turbid water surface, set against a backdrop of dark, forested hills. The image is used as a background for a text overlay.

About 60% of  
regulated MS4s  
discharge to  
impaired waters



# **EPA's National Enforcement Initiatives**

- **Keeping Raw Sewage and Contaminated Stormwater Out of our Nation's Waters**
  - “This National Enforcement Initiative will focus on reducing discharges from combined sewer overflows (“CSOs”), sanitary sewer overflows (“SSOs”), and municipal separate storm sewer systems (“MS4s”) in FY2011-13...”
  - Must inspect and address **ALL** Phase I MS4s by 2016
  - Inspecting and addressing Phase IIs encouraged

**<http://www.epa.gov/compliance/data/planning/initiatives/initiatives.html>**



# WHAT IS AN MS4?

A conveyance or system of conveyances that is:

- Owned by a state, city, town, village, or other public entity that discharges to waters of the U.S.;
- Designed or used to collect or convey stormwater (including storm drains, pipes, ditches, etc.);
- Not a combined sewer; and
- Not part of a Publicly Owned Treatment Works (sewage treatment plant).







# These are MS4s!







## **MS4 Elements**

- Public Education, Outreach, and Participation
  - Illicit Discharge, Detection, and Elimination
  - Construction Stormwater Management
  - Post-Construction Stormwater Management
  - Pollution Prevention and Good Housekeeping
- 
- Some differences in requirements
    - Phase I v. Phase II permittees (e.g., Industrial/Commercial)
    - Traditional v. Non-Traditional (non-municipal)
  - Importance of recordkeeping, detailed documentation, and self-reporting





# General Oversight and Compliance Guidelines

- MDE's Role – Program Implementation
  - Program Development
  - Permit Issuance (individual or general)
  - Permit Compliance
  - Permittee Guidance and Training
- EPA's Role – Program Oversight
  - Review Permits and Proposed Regulations
  - Inspections and Enforcement
  - Program and Inspector Guidance and Training





# Inspection Goals / Benefits

- Build relationships between permittee and regulator
- Provides better understanding of expectations and permit requirements
- Opportunity to clarify misunderstandings in MS4 permit requirements or SWMP (or other programmatic document)
- Improved knowledge of the permittee's operations, priorities, constraints and challenges faced
- A more effective program resulting in better water quality





# Overview of EPA Inspection Process

- Notification and pre-inspection conference call
- Conduct interviews and discussions with MS4 staff
- Field verification of compliance with the MS4 permit and SWMP or other programmatic document
- Review of documents and datasets that may not be made available through routine reporting
- Verification and validation of reported information
- Provide feedback and recommendations based on observations



# Inspections – What to Expect

- Conference calls prior to inspection
- 2 days, multiple program elements
  - Varies by permittee/permit
- Staff interviews
  - SOPs, training, coordination
- Document review
  - Completeness, enforcement
- Field inspections
  - Quality, training
- Closing discussion (may include recommendations)
- Inspection report







# Tips for a Better Inspection

- Be prepared
  - Have documentation ready
  - Have people available
- Be proud of your program
  - Show off a little
  - Brag
- Share examples of program implementation
- Tell us about your next steps
- Ask questions and seek advice
- Show that you care

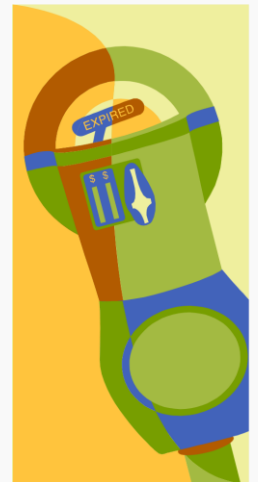




## MS4 Permits in Region III

- 26 Phase I MS4 permits
- Almost 1,500 Phase II MS4s
  - Most covered by General Permits
- Number of regulated MS4s has increased as a result of 2010 U.S. Census

Permit backlog nearing resolution!!!





## **Compliance/Enforcement**

- EPA has been active in audits/inspections of MS4s
  - 26 Phase I's and 50 Phase II's inspected since 2008
  - High rate of non-compliance, but recently improving
  - Compliance Orders and Penalties for significant issues
- State-wide Stormwater program assessments were performed for each R3 jurisdiction/state
- EPA is conducting MS4 Permittee and Inspector Training
  - 150 attended VA MS4 Forum this spring, about 120 here at MD Phase II MS4 Forum
  - State and National Inspector trainings
  - Sharing lessons learned from audits, peer to peer exchange





# The Good

- A few examples based on what we've seen, but by no means an exhaustive list.
- Communication amongst MS4s is great.
- **Watershed Evaluations** – Fairfax Co, Pr. William Co, Charlottesville, Carroll Co, Frederick Co
- **Construction/PCSM** – Chesapeake, Fairfax Co
- **Innovative BMPs and Retrofits** – Charlottesville, Carroll Co, Lancaster, Fort Lee, Baltimore Co
- **IDDE and System Assessments** – Richmond, York, Norfolk, Baltimore, Fairfax Co, Montgomery Co, Arlington, Rockville





# **The Good Programs**

- Innovative and motivated people
- Reliable funding
- High level political and administrative support
- Cross departmental engagement
- Informed and engaged communities
- Open communication and lesson sharing between jurisdictions
- Learned from past experiences
- Desire to improve







# The Bad

- Don't worry – no names here (but inspection reports and enforcement actions are public documents)
- **Municipal Facilities** – lack of good housekeeping practices, employee training and awareness, lack of applicable NPDES permits and/or SWPPPs
- **Construction Sites** – lack of NPDES permits and compliance at municipally owned projects
- **IDDE** – lack of system awareness, screening, investigation (e.g., sampling), follow-up, and enforcement
- **Post-Construction** – lack of awareness and maintenance of BMPs, no identification of retrofit opportunities





## **The Bad Programs**

- Many lack entire program elements
- Lack of interdepartmental program coordination
- Desire to do only the bare minimum (sometimes less)
- Lack of documentation
- Inadequate resources
- EPA enforcement actions necessary



# The Ugly





# **Help is Available**

- EPA NPDES MS4 Webpage
- <http://water.epa.gov/polwaste/npdes/stormwater/Municipal-Separate-Storm-Sewer-System-MS4-Main-Page.cfm>
  - Or just Google “EPA stormwater”
- MS4 Program Evaluation Guidance, MS4 Webcasts, MCM/BMP resources...
- Non-profit and Professional Associations
  - IECA, WEF, Environmental Finance Centers, Chesapeake Stormwater Network, Center for Watershed Protection...



# EPA Region III Contacts

Andy Dinsmore

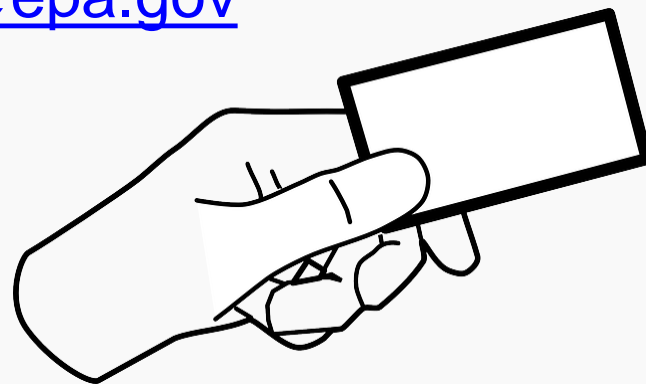
Stormwater Team Leader, EPA Region III

215-814-2788 or [dinsmore.andrew@epa.gov](mailto:dinsmore.andrew@epa.gov)

Liz Ottinger

Stormwater Permits Lead, EPA Region III

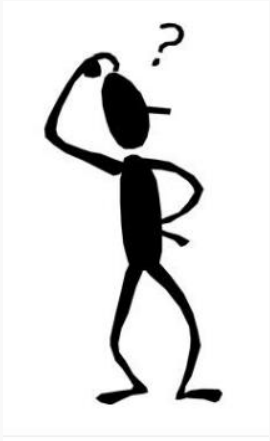
215-814-5783 or [ottinger.elizabeth@epa.gov](mailto:ottinger.elizabeth@epa.gov)







# Questions?





And now let's look  
at a few photos...



**But have no fear, there are no more of  
Andy (but there may be bulldozers...)**

# Construction Sites



Inadequate Construction Entrance

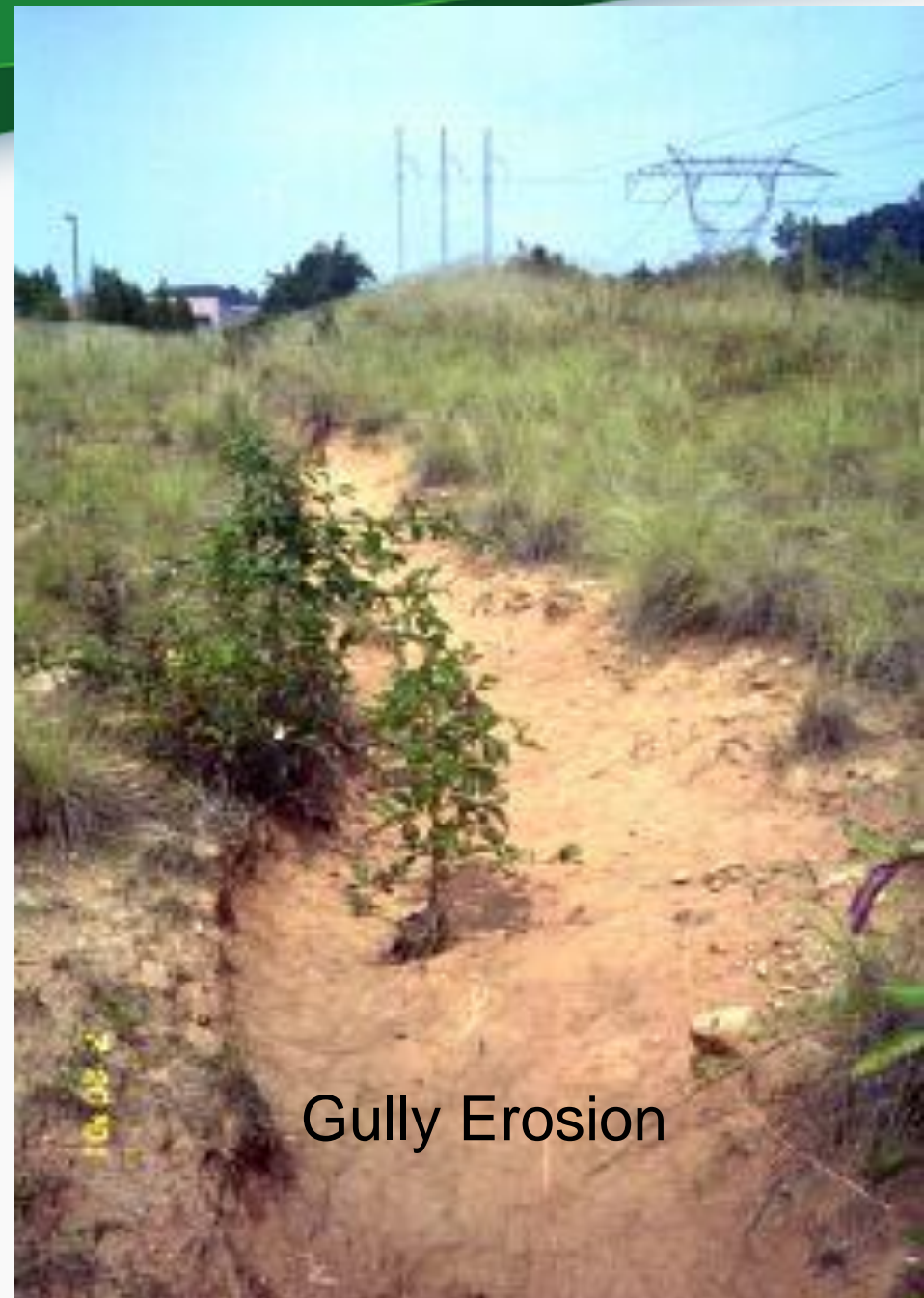


Inadequate Inlet Protection





Rill Erosion



Gully Erosion







# Commercial/Industrial Sites









# Municipal Sites

